



# Specification Guide

Issue 08

**spectus**

*n.* look, appearance, aspect



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Across the UK, Spectus Window Systems provides innovative, class leading window, door and curtain walling solutions to the construction industry.

This specification guide details our product offering and our support services in order to assist you in finding the best solution. Whether your next project is refurbishment or new build look no further than Spectus.

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# Reasons to Specify Spectus

## Look no further

Spectus is a market leader in the production of PVC-U windows, doors and curtain walling systems and our range is one of the best and most complete you will find.

Our products have been installed in thousands of new build and refurbishment properties in the private, public and commercial sectors including homes, schools, hospitals, offices and industrial units.

All of our products are listed in RIBA nbsPlus as well as on [www.ribaproductselector.com](http://www.ribaproductselector.com), the buildings products library for construction professionals. BIM objects for our products are also available on [www.spectus.co.uk](http://www.spectus.co.uk) and [www.bimstore.co.uk](http://www.bimstore.co.uk).

We are commercial specialists and have built a reputation based on exceptional quality in all areas of the business and a level of trust and integrity that respects the needs of our customers.

In this guide you can find out more about how we support this sector, why we are widely recognised as proactive experts and what we can offer you.

Our Approved Window Contractor scheme gives you the reassurance that you are choosing a contractor with the same commitment to quality as you and who is backed up with the proactive support of one of the industry's biggest names. Find out more on page 10.



## Our Mission

### Specification Support

As commercial build specialists, we have a wealth of knowledge and expertise. Our systems and initiatives harness our strengths and are all designed to add value to our offering to you. Find out more on page 14.

### Partnering

We value a partnership approach because we recognise that its strengths have the capacity to deliver a better result. Our commitment to partnership working demonstrates our dedication to delivering high quality projects that meet or exceed their requirements. Find out more on page 17.

### Environment

Our commitment to the environment is reflected in every aspect of our business. From manufacturing and lifecycle optimisation to maximising thermal efficiency, we continuously strive to exceed current requirements. Find out more on page 18.

### Product Innovation

Our products are at the heart of what we do. From our inception to today, our research and development team has been dedicated to ensuring that our products are at the cutting edge of innovation. Find out more on page 24.

### Spectus Key Facts

- Based in Telford in a 350,000 sq ft factory and head office
- Working with windows since 1981
- 50,000 frames made using Spectus every week
- Part of the £300m Epwin Group
- Dedicated specification and technical team
- A nationwide network of certified Approved Window Contractors manufacturing and installing high quality PVC-U windows, doors and curtain walling.

To make product specification even easier, you will find all of our products listed in RIBA nbsPlus as well as [www.ribaproductselector.com](http://www.ribaproductselector.com)

RIBA 

[bimstore.co.uk](http://bimstore.co.uk)

nbsPlus



# Systems Overview

The Elite 70 is Spectus' flagship products.

Following extensive research in technology, legislation and thermal efficiency, the Elite 70 offers a complete suite of component parts, which enables a full range of windows, doors and curtain walling to be designed, manufactured and installed.

## Elite 70

The Elite 70 system is one of Spectus' flagship products and is used in a full range of windows and doors in a wide range of colours.

Elite 70 is a fully post co-extruded suite of profiles, available with either bevelled or ovolo aesthetics.

The window range includes: casement windows, tilt & turn, fully reversible, entrance doors, French and bi-folding doors, and curtain walling.







### Systems Features

- Bevelled or ovolo design to suit the style of your next project, resulting in a consistent finish
- Market leading multi chambered profile provides increased thermal efficiency
- Post Co-Extrusion (PCE) Flexible gaskets are securely pre fitted to the profile during manufacturing preventing any shrink back through ageing, which provides extended performance and keeps your windows in the best condition for longer
- 24mm-44mm glazing options which provide additional thermal and sound insulation
- Window Energy Ratings of band A++ can be achieved through the flush glazing, which not only maximise Window Energy Ratings but also improves the aesthetic finish
- Complete systems with a full range of aesthetic accessories such as Georgian bars and decorative horns increasing choice.

**ELITE 70** 





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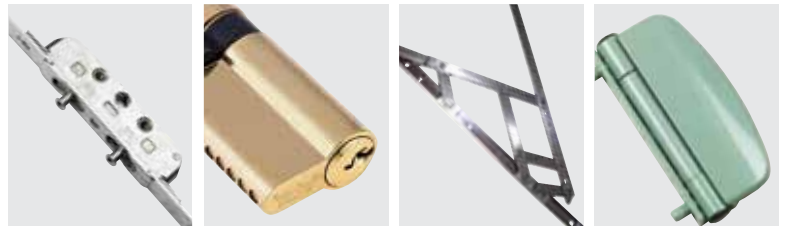
# Hardware Overview

To make specification as easy as possible, we offer security locking systems and associated window and door hardware to complement the product perfectly.

Making the inconvenience of sourcing hardware separately to windows and doors a thing of the past - all can be procured through one company.

The Spectus hardware is designed especially for our systems, providing not only an unrivalled product choice, but also the flexibility to choose the level of security required. When correctly specified our range will comply with all Building Regulations and associated legislation.

We are constantly developing our range of window and door systems in order to keep ahead of the market and meet the constantly evolving requirements for security.





A list of our Approved Window Contractors can be requested online or **telephone us on 01952 283344.**

## Approved Window Contractors

Your reputation rests on the quality of your products and service.

But the quality you offer is only as good as the partners that you work with, so it's vital that you choose with care.

### Tried and Tested Window Contractors

By choosing one of our Approved Window Contractors you have the reassurance that you have selected a window contractor of the highest calibre who understands contract obligations and whose commitment to quality matches your own.

Our scheme is only open to the commercial contractors who have demonstrated to us that they meet the standards we demand, and we regularly monitor members to ensure those standards are maintained. As a result, you can expect that every contractor in the scheme will have met minimum standards including:

- Holding constructionline/EXOR certifications
- Having quality accreditations in place
- Attending regular professional development sessions such as our commercial awareness training programme and specialist courses
- Having experience in the management of large contract supply and installation
- Demonstrating a thorough knowledge of site practices to ensure effective working with other trades and on-time, on-budget completion.

As members of the scheme, our Approved Window Contractors manufacture and install all of our products under full contract management and benefit from technical support from us, as well as product and professional training.

You can also be assured that our Approved Window Contractors are experienced in working professionally and respectfully in order to minimise disruption to residents' daily lives.









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# Quality Assurance

We understand that our reputation for exceptional product quality is proven by the accreditations that we hold. Spectus windows and doors conform to the following statutory requirements, British Standards or Trade Standards:



## BS EN ISO 9001

BSI Registered firm scheme:  
Quality management systems  
- requirements.



BS EN 12608/PAS24  
KM 33510  
ENHANCED SECURITY  
WINDOW SYSTEMS  
SUPPLIER

## BS EN 12608/PAS 24

Window System supplier -  
Enhanced security performance  
requirements for windows.



## BS EN ISO 14001

Manufactured under an  
ISO 14001 Registered  
Environmental  
management system.



BS EN 12608/PAS24  
KM 77061  
ENHANCED SECURITY  
DOOR SYSTEMS  
SUPPLIER

## BS EN 12608/PAS 24

Door System supplier - Enhanced  
security performance requirements  
for doorsets.



## BS OHSAS 18001

Occupational health  
and safety management  
systems.



## SECURED BY DESIGN

Secured By Design is the UK Police  
flagship initiative supporting the principles  
of 'designing out crime' by use of effective  
crime prevention and security standards.



BS EN 12608  
KM 12874  
PROFILE

## BS EN 12608

Window System supplier  
requirements for window  
assemblies.



## BES 6001

Responsible sourcing of  
construction products.



# Specification Support

We are committed to working with local authorities and private registered providers including ALMOs, housing associations, house builders and contractors. We therefore have in place a number of initiatives designed to build mutually beneficial relationships and help you meet and exceed your requirements.

## Specification Expertise

Our specification managers are dedicated to advising you on the correct applications for our systems. Support covers:

- Undertaking site surveys to ensure appropriate design
- Advising on specifications and current Building Regulations
- Providing specifications with section drawings for tender documentation
- Supplying sample windows for planning approval
- Providing forward planning and budgeting advice.

## Exceptional Priority Support

Our specification team provides assistance with the following:

- Providing a no-obligation consultation
- Site visits to ensure that your specification is being adhered to
- Meeting specific design requirements
- Developing a full specification
- Assistance with surveying projects.



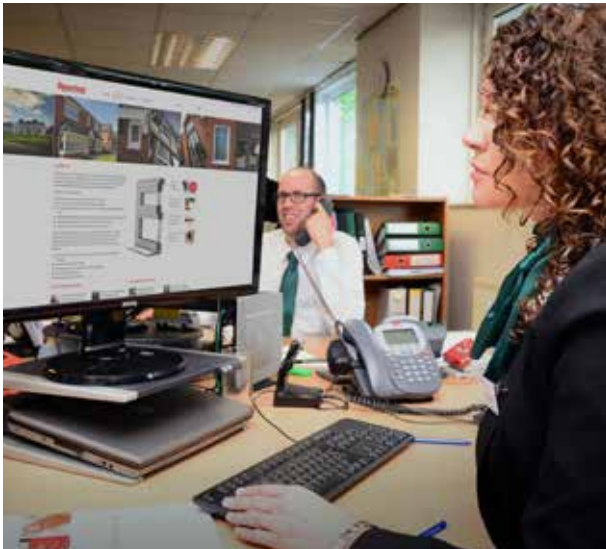


### Industry leading support as standard

We also have a technical team that can provide support with:

- Window Energy Ratings
- Wind loading calculations
- Load bearing calculations
- Section details for specifications.

Working with Spectus means you will automatically benefit from access to our Approved Window Contractors network. As well as having the reassurance that you're working with a company of the highest calibre, you will also have benefits such as our resident liaison service, which brings added value to your project and helps increase resident satisfaction levels. Once you have selected the Approved Window Contractor for your project, we will work alongside them and liaise with other parties such as residents, attending any meetings to offer advice on the specified products, styles and hardware to ensure complete buy-in.

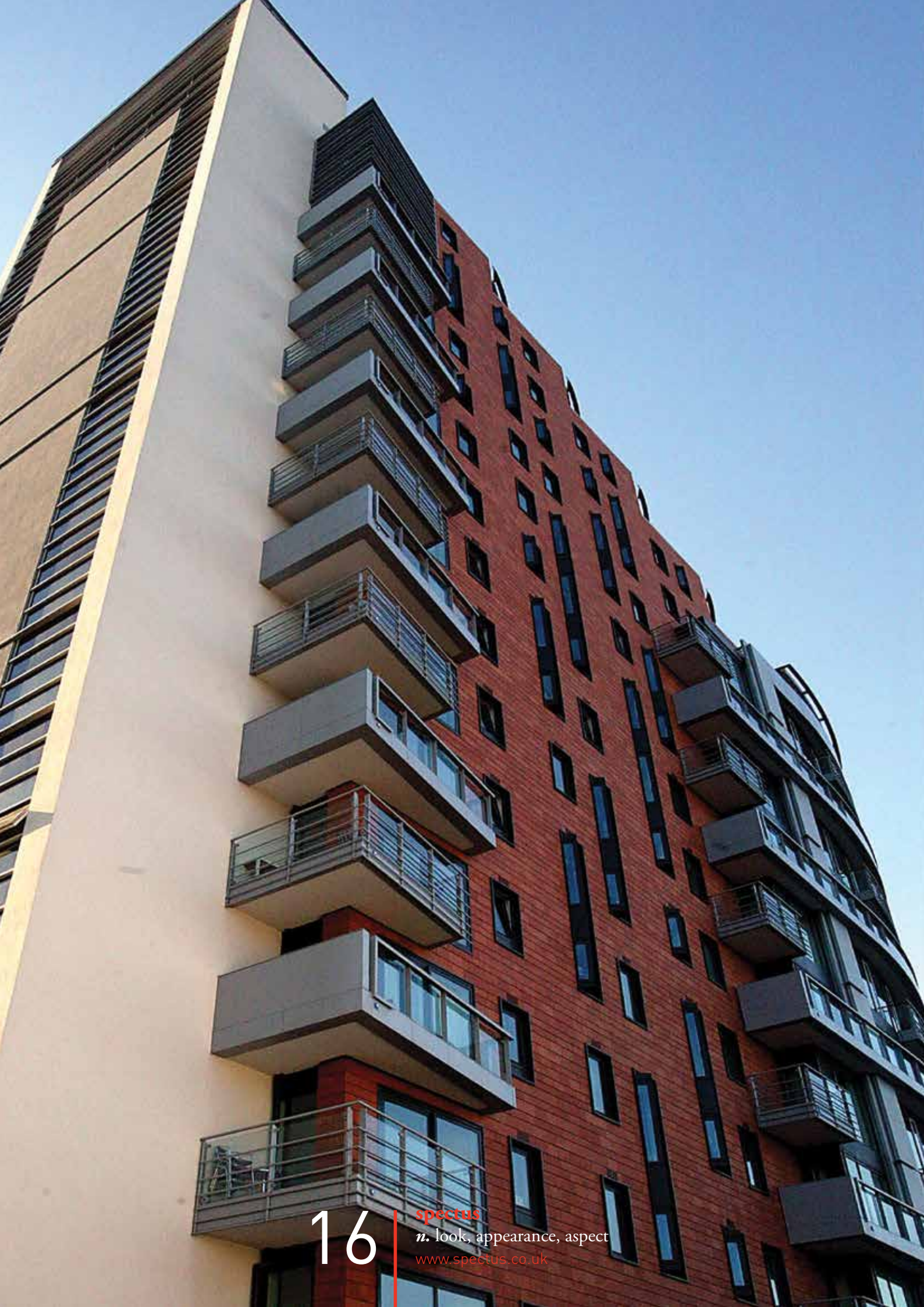


### We would be delighted to help you

To obtain advice and assistance from Spectus you can either contact us by telephone or via our website. We offer assistance for every stage of the project, including a no-obligation consultation, specific design requirements, full specification, surveying and structural calculations, an extensive choice of quality and durable products - through both field and technical support teams.

Telephone 01952 283344 [www.spectus.co.uk](http://www.spectus.co.uk)







# Partnering

Spectus prides itself in helping specifiers make the right choice of products for the application and project; considering best value, design, sustainability and whole-life costings.



## A proactive approach that values partnership working

We value partnership arrangements because of their collaborative approach that highlights best value rather than lowest cost. We believe that strong partnership arrangements not only deliver improved business performance for all parties but, crucially, ensure that projects deliver against key performance indicators and mutually agreed benchmarks. The end result is delivery of projects that improve the lives of the people who live and work in the buildings we work on.

## Design stage support

The work undertaken at the design stage is perhaps the most important in any project. We work with local authorities, housing providers, procurement consortia, house builders and contractors to ensure that a project's foundations are sound. We do this by working alongside you and our Approved Window Contractors to develop a product and service that meet the precise requirements of an individual project.

## Product choice support

The right products for a project balance a multitude of factors including continuity of supply, best value, sustainability, product guarantees, whole-life costings and aesthetics. We are skilled in helping you select the right product that balances these complex requirements and deliver the best possible result.

## Long term commitment

When we commit to a partnership, we are committing to meeting the agreed timescales and key performance indicators. We do not take that commitment lightly. We recognise that your reputation, as much as ours, rests on successful completion of any project. We work hard within our business and with the rest of our supply chain to ensure we meet or exceed our obligations.





# Environmental Sustainability

Helping you to meet your environmental targets.

The key driver for architects and specifiers is to achieve 'nearly' Zero Energy Buildings by 2020, aligning itself with European Policy. This is in line with government targets to reduce carbon emissions in buildings as part of its target to reduce overall CO<sub>2</sub> emissions and help moderate the climatic changes brought about by global warming.

Our actions at all levels of our business are aimed at supporting our partners in this drive and at reducing the impact that we, like every business, have on the environment.

We are the first windows systems company to achieve the Building Research Establishment standard BES 6001. The standard describes a framework for the organisational governance, supply chain management and environmental and social aspects that must be addressed in order to ensure the responsible sourcing of construction products. Holding the standard enables us to provide independent, third party assessment and certification that we have an effective system in place for ensuring responsible sourcing, giving you the evidence you need to meet your sourcing requirements.







We are fully committed to the environmental standard ISO 14001, which covers all environmental issues.

We recycle our own PVC-U waste and use it to generate new products such as recycled composite material (RCM) thermal inserts and cills. We also work with our partners on specific sustainability initiatives.

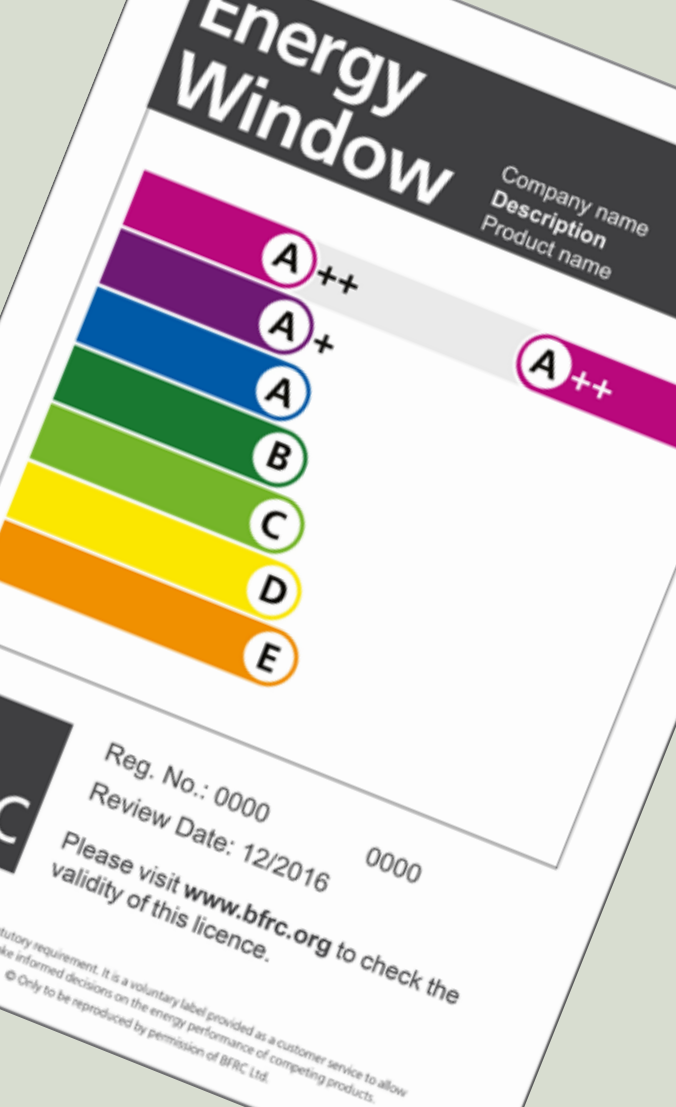
### Life-cycle optimisation

The credentials of PVC-U as a sustainable material are well-established. The Building Research Establishment gives PVC-U a reference service life of 35 years. PVC-U windows manufactured in accordance with BS 7412 are expected to last in excess of 40 years according to the British Standards Institute. Each PVC-U product can also be recycled more than ten times and still maintain its performance level, giving PVC-U a typical total lifespan of over 400 years.

### A whole life approach

We value the environmental benefits that PVC-U offers and are passionate about helping to maximise those benefits. We work closely with our clients and our supply chain to reduce the environmental impact of our products at every stage from production to end of life and beyond.





# Energy Efficient Products

## Energy efficiency as standard

While sound environmental practices during a building's construction phase are vital, it is the in-use emissions that play a bigger role in a building's overall carbon footprint. And a building's windows and doors are one of the areas where the biggest carbon savings can be made.

We are dedicated to developing products that lead the way in thermal efficiency and help buildings to achieve exceptional thermal efficiency.

The five chamber design of our window systems significantly improves the thermal performance of our windows, reducing heat loss through the frames. When used with performance glass units the design maximises the role of the glass and takes advantage of the contribution made by heat retention and solar gain. As a result, Spectus windows can achieve 'A++' rated – the highest available for thermal efficiency.







## RCM Thermal Inserts

A cost effective solution to rising steel reinforcing prices, the Spectus range of thermal inserts achieves a fantastic blend of performance and sustainability.

Specifically designed for the Elite 70 range, these inserts are made from 100% recycled PVC-U. They are lightweight, easy and safe to work with, long lasting and highly insulating. Used together with traditional steel or aluminium reinforcements, the inserts have been designed to improve screw retention and to ensure perfect hardware positioning.

### Key Facts

- Excellent thermal performance
- Improved WERs and U-values
- Superior screw retention for hardware
- Compatible with both internally and externally glazed sashes
- Suits ovolo and bevelled systems
- Made from 100% recycled material.

### Where to use RCM thermal inserts

Our inserts are designed to work with outerframes, sashes, transoms and mullions and to fit all sizes of outerframe from the slim to the large.

They work with internal or external glazing and with ovolo or bevelled profiles. In other words, whatever Elite 70 window you are specifying, there's an RCM thermal insert to suit.

Included in the range is an insert for use in door outerframes, which has a significantly increased wall thickness to support hinges and keeps.



# Building Regulations

All of our products have been designed to be fully compliant with the latest Building Regulations in respect of windows, doors and hardware.

In the technical section of this guide, guidance is given on the regulations affecting usage of our products such as:

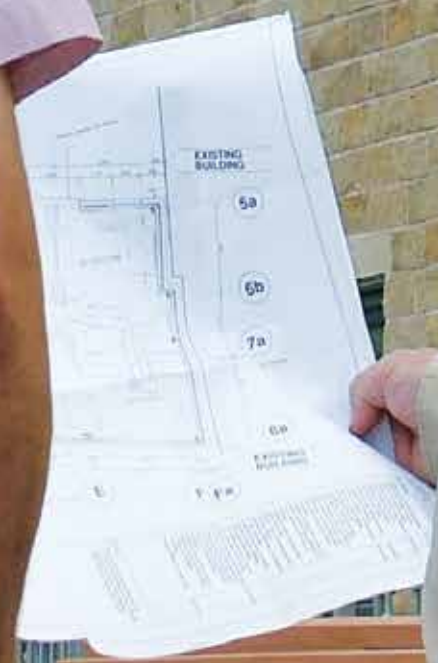
- Document B - Fire Safety and Means of Escape
- Document E - Sound Performance
- Document F - Ventilation
- Document K - Protection from falling, collision and impact
- Document L - Thermal Performance (incorporating Scottish Document J and Document L - Republic of Ireland)
- Document M - Wheelchair access
- Document N - Glazing safety (only relevant to Wales)
- Document Q - Security: Dwellings

The ongoing development of the Building Regulations reflect the Government's commitment to reduce CO<sub>2</sub> emissions, aimed at saving one million tonnes of carbon every year. The regulations are therefore subject to change and we would like to bring to the attention of the reader that the information contained within our technical guide is correct at the time of going to print. We recommend that you check for the most up to date legislation relating to Building Regulations by going on line and searching under 'Building Regulations' or going direct to [www.planningportal.gov.uk](http://www.planningportal.gov.uk)





**Spectus**  
WINDOW SYSTEMS







# Product Innovation

Since Spectus began, product development has been at the heart of what we do.

## Innovation is a way of life

At Spectus we develop window and door products that are aesthetically pleasing with class-leading performance and innovative features. We use leading edge design techniques and technical skills to continuously improve our products. We are committed to continuous investment in technology in order to provide you with a wider choice of products that bring precision technology and factory fit standards to the site. This ensures that we consistently exceed the expectations of those who fabricate, specify and install our windows and doors.

Our latest product development is our new flush casement window system, which is a popular choice for contemporary, character properties and conservation areas. Now it is easy to achieve a flush appearance without compromising on warmth and comfort, the flush system offers the very best performance, security and range of colours to complement any building design.

Our flush tilt and turn window which offers a perfect combination of optimised thermal performance and outstanding aesthetics and is manufactured using low carbon technology to reduce production emissions. It uses our innovative Aeroframe™ thermal wall technology, there are at least five chambers in our profiles to maximise thermal performance.

Our flush casement and flush tilt & turn join our other innovative products including our market-leading fully reversible and vertical slider, which combines all the benefits of modern PVC-U and functionality with stunning period character and design.





### Triple glazing solution for greater thermal performance

When greater thermal performance is required, you now have the option of upgrading your specification from double to triple glazing. Capable of achieving a U-value as low as 0.8W/(m<sup>2</sup>.K).



- Can be used in a variety of window and door styles including casement, tilt & turn, fully reversible, single & double doors and tilt/slide patio doors
- Optional 100% recycled composite material (RCM) profile inserts
- Both of our systems can accommodate triple glazing options
- Allows greater flexibility in attaining WER ratings & U-values
- Attains low U-value of 0.8 with argon fill.



Triple Track inline sliding patio door, Claystone



Flush Casement windows, Sage Smooth

## Colour Options

Spectus' window and door systems come in a complete range of colour and woodgrain foil finishes that support architects' creativity and enhance the personality of buildings. The ability to specify coloured frames means that a project can achieve an aluminium appearance with the performance and cost benefits that PVC-U brings.

These include dual colour options which allow for maximum design flexibility and allows us to provide valuable support and assist with value engineering where necessary to ensure that your project's aesthetics meet their objectives.

Spectus products are designed with maximum strength and durability in mind, and are rigorously tested to ensure they meet the highest standards and are fully compliant with Building Regulations.

### Stock Colours

#### Premium



Anthracite Grey /  
White (PVC-U)  
(White Base)

**System: 1, 2, 3, 4**



Anthracite Grey /  
Anthracite Grey  
(Grey Base)

**System: 1**



Rosewood /  
White (PVC-U)  
(White Base)

**System: 1, 2**



Rosewood /  
Rosewood  
(Brown Base)

**System: 1, 2**



Black Brown /  
White (PVC-U)  
(White Base)

**System: 1, 2**



Black Brown /  
Black Brown  
(Brown Base)

**System: 1**



Light Oak /  
White (PVC-U)  
(White Base)

**System: 1**



Light Oak /  
Light Oak  
(Tan Base)

**System: 1, 2**

#### Premium Plus



Cream /  
White (PVC-U)  
(White Base)

**System: 1, 3**



Cream /  
Cream  
(Cream Base)

**System: 1, 3**



White Woodgrain /  
White Woodgrain  
(White Base)

**System: 1, 3**

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## Fast Track Colours

### Premium



Anthracite Grey  
Smooth /  
White (PVC-U)  
(White Base)  
**System: 1, 4**



Anthracite Grey  
Smooth /  
Anthracite Grey  
Smooth (White Base)  
**System: 1, 4**



Chartwell Green /  
White (PVC-U)  
(White Base)  
**System: 1, 3**



Agate Grey /  
White (PVC-U)  
(White Base)  
**System: 1, 3**



Slate Grey /  
White (PVC-U)  
(White Base)  
**System: 1**

### Premium Plus



Sage Smooth /  
White (PVC-U)  
(White Base)  
**System: 1**



Pebble Grey /  
White (PVC-U)  
(White Base)  
**System: 1**



Claystone /  
White (PVC-U)  
(White Base)  
**System: 1**

The colour options available on profiles offered within each system, as indicated by the Systems Key, may be restricted to selected popular sections.

Please refer to the Product Guide for availability. If in any doubt, please speak to your Customer Service Advisor

Rosewood = Black Cherry,  
Light Oak = Golden Oak

### Systems Key

- 1** Flush Casement | Elite 70 Bevelled | Elite 70 Ovolo
- 2** Elite 63
- 3** Vertical Slider
- 4** Flush Tilt & Turn | Fully Reversible

## Foilexpress Made to Order Colours



Cream\*



Claystone\*



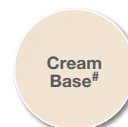
Pebble Grey\*



Windsor



Sage Smooth\*



Cream  
Base#



Agate Grey



Chartwell Green



Irish Oak\*



Honey Oak  
Super-Matt\*



Light Oak



Pyrite\*



Tan  
Base#



AnTeak\*



Swamp Oak\*



Rosewood



Black Brown



Flemish Gold  
Smooth\*



Brown  
Base



White\*



Dark Red



Steel Blue



Dark Green



White  
Base



Black Ulti-Matt\*



Silver D Smooth\*



Hazy Grey  
Finesse



Kensington Grey



Buckingham Grey



Grey  
Base#



Basalt Grey  
Smooth



Slate Grey  
Finesse



Slate Grey



Anthracite Grey



Anthracite Grey  
Smooth

### \* Premium Plus

#### Main Sections:

One colour, one side – White base

One colour, both sides – Colour matched base (see exceptions) Different colours either side – Colour matched base of your choice (see exceptions)

#### Beads & Ancillaries:

Colour/Shade matched base if visible or white base if not visible E.g. Light Oak beads are supplied on a brown base and Anth. Grey beads are supplied on a brown base  
Frame Packers are supplied on a White base

### # Exceptions:

Grey base not available on Elite 63 (Substituted with Brown)

Cream base not available on Fully Reversible & Flush Tilt Turn (Substituted with White)

Tan base not available on Fully Reversible & Flush Tilt Turn (Substituted with Brown)

The base colour options available on profiles offered within each system may be restricted to popular sections. If in any doubt please speak to your customer service advisor.



# Product Performance

Spectus products are designed with maximum strength and durability in mind, and are rigorously tested to ensure they meet the highest standards and are fully compliant with Building Regulation.

## Security

When fabricated and installed to the specification laid down by Spectus Window Systems, windows can achieve the requirements of PAS 24 the standard for enhanced security performance.

## General testing

Internal and external testing of the finished product is carried out to the following standards:

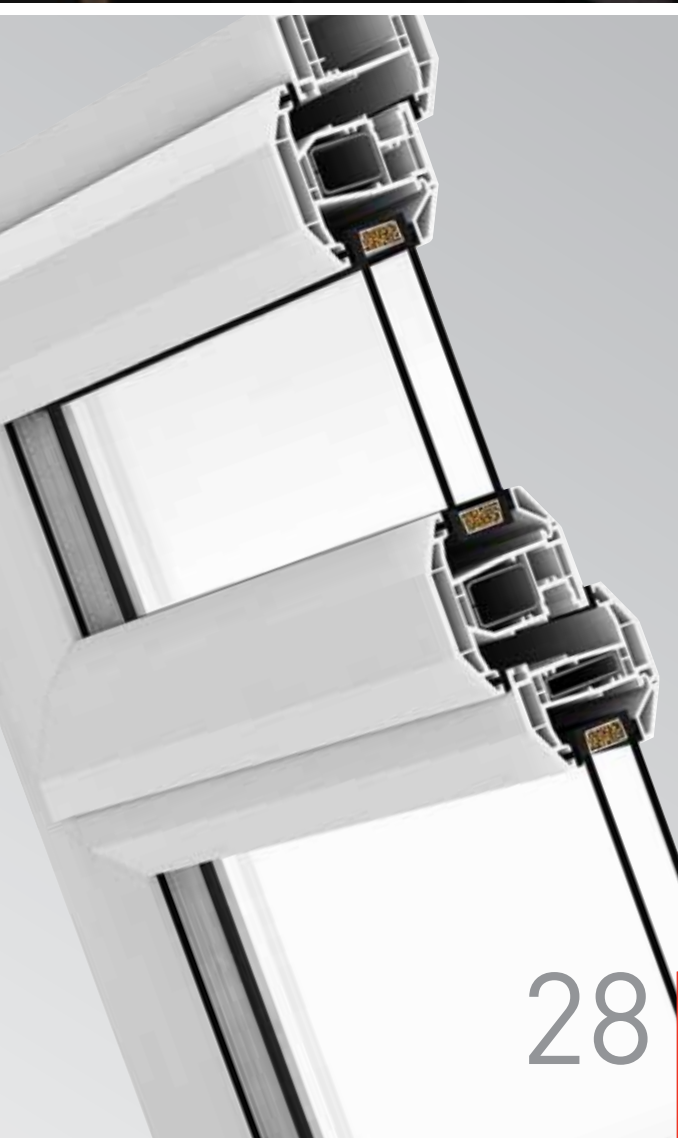
BS 6375 - Performance of windows and doors: Part 1: Classification for weather tightness and guidance on selection and specification. Part 2: Classification for operation and strength characteristics and guidance on selection and specification.

## Structural/Mechanical strength and stability

As with all windows, products fabricated from Spectus profiles are generally not intended to be load bearing components of the building structure, except in the case of certain bay windows, where the provision of suitable reinforcement can make them so.

## Reinforcement

Reinforcement in the form of galvanised steel or aluminium sections is incorporated within the profiles to enable strength requirements to be met.







### **Durability**

PVC-U is exceptionally durable and product life is estimated to be in excess of 35 years. Installations in mainland Europe have been monitored over a 40-year period and show no degradation of the PVC-U.

Durability is unaffected by coastal or saline environments, but can be affected by heavy industrial pollution.

### **Metal reinforcement**

Where steel sections are used, they are isolated from the environment in specially sealed chambers to protect against corrosion in certain applications. Where it is not possible to isolate the reinforcement, then aluminium is used.

### **Hardware and fittings**

Because of their exposure to the environment, these can suffer corrosion, particularly in coastal, saline or heavily polluted areas. Regular maintenance, cleaning and the application of light oil will maximise the life of exposed metal parts

### **Weather performance**

Spectus profiles are provided with weather seals to give optimum performance with regard to weather tightness. All Spectus Window systems have been successfully weather-tested to BS 6375.

### **Thermal expansion**

PVC-U window profiles have a co-efficient thermal expansion of 1.0mm/m/20°C change in temperature.

### **Thermal transmittance (U-value)**

The overall insulation performance of the window will depend on the effectiveness of the insulated glass units. Specific guidance on thermal transmittance can be found in the appropriate section of current building regulations.



# Product Portfolio

Spectus is a market leader in the production of PVC-U windows, doors and curtain walling systems and our range is so comprehensive that you will always be able to find a solution, whatever your application demands.











# Casement Windows

Spectus provides a range of Elite 70 and Elite 63 casement windows, which are available in a range of styles, single top or side hung openers, multi-lights and French windows, internally or externally glazed offering bevelled, chamfered or ovolo finishes.

The window system is fully BSI kitemarked.

## Profile

Acrylic modified high quality impact resistant white PVC-U extrusion, producing a rigid multi-chambered profile to BS EN 12608 manufactured to BS EN ISO 9001.

## Reinforcement

A multi chamber profile allows for fully enclosed reinforcement. Recycled Composite Material (RCM) thermal inserts, aluminium and/or steel reinforcements are used in accordance with the system supplier's recommendations.

## Performance

Energy efficient windows achieving a Window Energy Rating (WER) of Bands A+ -C.

A U-value of 1.6 W/(m<sup>2</sup>.K ) or A++ can be achieved to meet current Building Regulations.

Co-extruded bubble weather seals ensure the performance meets the requirements of BS 6375-1.



Top Hung – test results	Value
Air permeability	300Pa
Water tightness	600Pa
Wind resistance	2000Pa
Side Hung – test results	Value
Air permeability	300Pa
Water tightness	750Pa
Wind resistance	2400Pa

Elite 70 results shown



## Glazing

Double/Triple glazing to BS6262 can be supplied using 24-44mm insulating glass units depending on thermal and acoustic performance requirements.

## Ventilation

Opening vents are hinged using friction hinges, restricted friction hinges are also available, together with egress hinges for window openings in case of fire.

## Hardware

Our casement window range is fitted with espagnolettes with mushroom headed catches or high security shoot bolts. Locking or non-locking handles are available in a range of finishes.

All our hardware meets the requirements of BS7412. Windows fitted with high security hardware meet the requirements of PAS24.



Run Up Block



Security Clip (External glazing only)



Dedicated Keeps



Hinge Protector



Shootbolt Extension



Chrome Handle



Defender Hinge



Rail Espags



# Flush Casement Windows

Providing an exceptional level of energy efficiency and an attractive modern aesthetic, the flush casement window from Spectus is an ideal choice for older properties with character and heritage to preserve.

Spectus flush casement windows mimic the traditional appearance of period properties, whilst offering superb energy efficiency and lower heating bills. They offer the perfect solution for planners in areas protected by conservation orders looking for a flush 'sash' casement that replicates the 19th century timber window design, whilst offering modern features and benefits. The simple lines and proportions also mean it has masses of potential even in more modern buildings.

Spectus flush casement windows offer a contemporary deep bevelled appearance on the outside with bevelled or sculptured options for the inside. We believe our flush casement is the best on the market far surpassing the others on the market in terms of authentic design and energy efficiency. Every detail is thought of from the ancillaries, trims, to the finishing details such as dummy sashes for perfect balance, deep bottom rails and the option of mechanical jointing.

In the past PVC-U windows have not been favourable due to their bulky appearance; however this new design is virtually indistinguishable from timber. The window system is available in a range of attractive colours to enhance any property.

## Features:

- U-value as low as 1.4W/m2K
- Bevelled outside with bevelled or sculptured options for indoors
- Specially selected hardware for authentic appearance and security
- Mechanical jointing of sashes and deep bottom rails
- Suitable for conservation, heritage property and modern buildings
- Standard co-extruded gasket – optional 2nd & 3rd weather seal



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### Profile

Acrylic modified high quality impact resistant white PVC-U extrusion, producing a rigid multi-chambered profile to BS EN 12608 manufactured to BS EN ISO 9001.

### Reinforcement

Specific members are reinforced with recycled composite material (RCM) thermal inserts, aluminium and/or steel to BS 7412 sealed within the profile central cavity.

### Glazing

Double glazing to BS 6262 can be supplied using 24mm insulating glass units.

### Ventilation

Controllable or permanent ventilators can be fitted into the head of the frame immediately above the sash, if required.

### Performance

The flush casement is a multi-chamber system and achieves a WER 'A+' rating when glazed with argon filled double glazed units.

The system eliminates the need for expensive Krypton gas filled units, insulation in the profiles; therefore reducing costs to a minimum.

Test	Value
Air permeability	600Pa
Water tightness	600Pa
Wind Resistance	2400Pa

Weather rating tested to BS 6375-1





# Tilt & Turn Windows

These tilt & turn windows with dual opening action are available in Elite 70. The windows are provided with all round locking, internally glazed, open-in, providing good security and weather tightness.

Tilt & Turn windows are unlike standard windows as they open inwards. The windows are incredibly easy to operate with a 1/4 turn of the handle the window can tilt inwards from the top to give normal ventilation then a further 1/4 turn of the handle to allow the window to fully open for easy cleaning in side and out.

The tilt before turn operation provides improved child safety and the ability to carry out internal and external cleaning without risk; a vital consideration in high-rise applications. The tilt mode offers secure ventilation; an important factor in ground floor installations.

The window system is BSI kitemarked.

## Profile

Acrylic modified high quality impact resistant white PVC-U extrusion, producing a rigid multi-chambered profile to BS EN 12608 manufactured to BS EN ISO 9001.

## Reinforcement

A multi-chamber profile allows for fully enclosed reinforcement. Recycled Composite Material (RCM) thermal inserts, aluminium and/or steel reinforcements are used in accordance with the system supplier's recommendations.

## Glazing

Double/Triple glazing to BS6262 can be supplied using 24mm-44mm insulating glass units depending on thermal and acoustic performance requirements.







## Performance

Energy efficient windows achieving a Window Energy Rating (WER) of Bands C - A+.

A minimum U-value of 1.6 W/(m<sup>2</sup>.K) or A++ can be achieved to meet current Building Regulations.

Co-extruded bubble weather seals ensure the performance meets the requirements of BS 6375-1.

Test	Value
Air permeability	600Pa
Water tightness	450Pa
Wind Resistance	2400Pa

Elite 70 results shown.

## Hardware

Tilt & Turn windows are fitted with all round

multipoint locking mechanisms, locking or non-locking handles in a range of finishes.

All hardware meets the requirements of BS7412. Windows fitted with high security hardware meet the requirements of PAS24.

## Ventilation

In addition to the tilt mode, controllable or permanent ventilators are offered as an optional extra, fitted within the head profile of the window.



# Flush Tilt & Turn Windows

This revolutionary flush tilt & turn window is an ideal solution for any building project, as it has been specifically designed to prevent the framework from overlapping to give a more 'flush' appearance.

The Spectus window system offers all the benefits associated with the functionality of tilt & turn and also overcomes aperture limitations, making it a perfect solution when a larger-sized window is required.

Available in a selection of colours, our flush tilt & turn window incorporates "Aeroframe" thermal wall technology, the high quality benefits of PVC-U and achieves an exceptional level of energy efficiency.

## Applications

Suitable for both medium-high rise buildings, such as offices, hospitals and universities, the flush tilt & turn window is the ideal window choice for new build and refurbishment projects. Residential and commercial buildings will immediately benefit from its large window size, which has a generous opening size of up to 1450 x 2300mm, which results in excellent levels of natural light and ventilation.

The flush tilt & turn window is fitted with an anti-switch barrier, a security feature that prevents accidental movement from tilt to turn or vice versa. This means that our revolutionary design can be relied upon in all applications from the ground level up.





### Window Operation

These flush tilt & turn windows open internally and provide excellent security and weather tightness. The turn operation provides the ability to carry out cleaning without risk - a vital consideration in high-rise applications.

In the tilt mode the window offers secure ventilation, an improved factor in ground floor installations. The tilt & turn anti-switch barrier prevents selection from tilt to turn, while in tilt mode and vice versa. An anti-slam device is fitted as standard and the gearing is concealed for improved aesthetics.





### Profile

Acrylic modified high quality impact resistant white PVC-U extrusion, producing a rigid multi-chambered profile to BS EN 12608 manufactured to BS EN ISO 9001.

### Reinforcement

Specific members are reinforced with recycled composite material (RCM) thermal inserts, aluminium and/or steel to BS 7412 sealed within the profile's central cavity.

### Glazing

Double/triple glazing to BS 6262 can be supplied using 28, 36 and 44mm insulating glass units, depending on thermal and acoustic requirements.

### Ventilation

Controllable or permanent ventilators can be fitted into the head of the frame if required

### Performance

The flush tilt & turn window is a 5 chamber system and achieves a WER 'A++' rating when glazed with argon filled triple glazing. The system eliminates the need for expensive Krypton gas filled units, insulation in the profiles therefore keeping costs to a minimum.

Test	Value
Air permeability	600Pa
Water tightness	450Pa
Wind Resistance	2400Pa

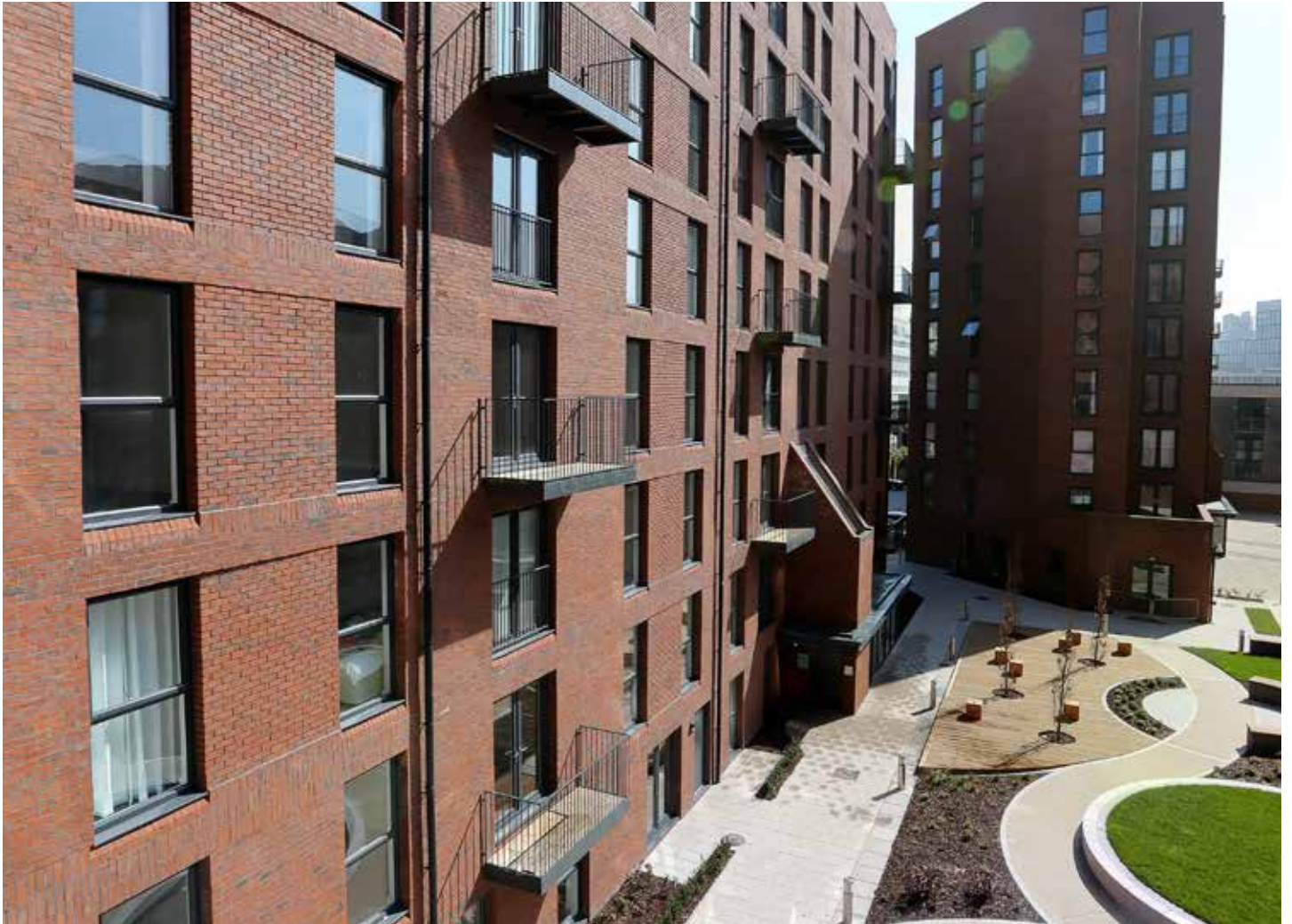
Weather rating tested to BS 6375-1:2009

### Hardware

Maco multi-power fully concealed gearing which meets the requirements of BS 7412. Windows fitted with high security hardware meet the requirements of PAS 24.





**Features:**

- Flush, urban and modern design
- No overlapping of framework externally
- High performance centre seal system
- Triple glazing can achieve u-values to 0.8 W/(m<sup>2</sup>.K)
- Achieves WER A++
- Maximum opening size up to 1450mm x 2300mm
- Glazing options: 28, 36 & 44mm
- Sash is neatly positioned inside the frame
- Six-chambered sash and five-chambered outer frame with "aeroframe" technology
- Concealed hinges & gearing
- Recycled composite outer frame reinforcement
- Range of window styles available in BIM format
- Diverse range of colours and dual colour options





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## Fully Reversible Window

Especially designed for medium to high-rise and inaccessible locations, the Spectus fully reversible window will revolutionise the industry with its innovative Aeroframe™ thermal wall technology and its striking deep bevelled appearance.

These 70mm Fully Reversible Windows have their own unique appearance designed with a deep-bevelled edge to the window profile giving it a striking, but modern look. The window easily rotates 180° allowing for safe and easy cleaning of the outside pane without the window entering the room space itself; avoiding snagging of curtains or blinds.

Its high security locking and child resistant safety catches ensures its maximum safety and security.

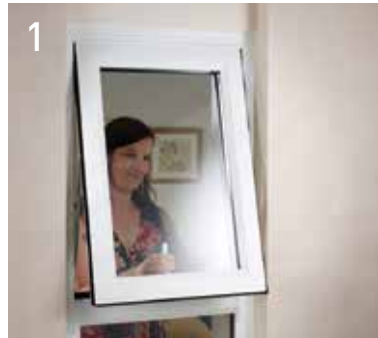




Designed with five chambers in all profiles and is part of the Elite 70 suite, it can also incorporate triple seals to maximise thermal performance.

- Deep Bevelled 70 mm profile
- 5 chamber profiles incorporating new Aeroframe™ thermal wall technology for greater performance and reduced U-values
- Fully rotates allowing safe and easy cleaning from inside the building
- Flexible glazing unit options: 24, 28, 36 and 44mm
- Optional 2 or 3 weather seal available to aid thermal performance
- Cost effective WER A+ OPTION
- Triple glazing allows U-values to 0.8 W/(m<sup>2</sup>.K) or A++
- Produced using low carbon technology
- Variety of colour options
- Certified manufactured BES6001 scoring additional points under the CODE for Sustainable Homes or BREEAM.

## Window Operation



1) The window can rest in the narrow night ventilation position or with approximately 100mm opening.



2) The window can also rest in a more open position approximately 300mm opening.



3) Once the safety catch is released the window can be completely rotated.



4) The window rotates without entering the room space.



5) The special hinge assembly brings the outside of the window to the inside of the room.



6) The fully reversed window engages on a safety catch and allows safe and easy cleaning of the outside pane.



## Profile

Acrylic modified high quality impact resistant white PVC-U extrusion, producing a rigid multi-chambered profile to BS EN 12608 manufactured to BS EN ISO 9001.

## Reinforcement

Specific members are reinforced with recycled composite material (RCM) thermal inserts, aluminium and/or steel to BS 7412 sealed within the profile central cavity.

## Glazing

Double/triple glazing to BS 6262 can be supplied using 24-44mm insulating glass units, depending on thermal and acoustic requirements.

## Ventilation

Controllable or permanent ventilators can be fitted into the head of the frame immediately above the sash, if required.

## Performance

This Fully Reversible Window is a 5 chamber system and achieves a WER 'A+' rating when glazed with argon filled triple glazing.

The system eliminates the need for expensive Krypton gas filled units, insulation in the profiles or expensive special reinforcing; therefore reducing cost.

Test	Value
Air permeability	600Pa
Water tightness	1050Pa
Wind Resistance	2000Pa

## Hardware

Security features multi-point mushroom espagnolette, with night vent facility and lockable handles (dependent upon fire egress requirements).

All hardware meets the requirements of BS 7412.

Windows fitted with high security hardware meet the requirements of PAS 24.





## Vertical Slider

Spectus' market leading vertical slider combines all the benefits of high performing modern materials and functionality with period character and design.

Advanced technology and traditional design have come together to create the perfect solution for period properties.

A fully ovolo detailed vertically sliding window with sash options to ensure equal sightlines and a tilt-in facility to allow easy cleaning. The 128mm front to back outerframe dimension makes it ideally suitable for traditional timber box sash replacement.

A choice of Georgian bars; moulded or through horns; and a mechanically jointed deep bottom rail which gives the appearance of a traditional box sash window.

Wider cill options are also available to enable a range of installation options.



### Features:

- Fully featured Ovolo detail
- Deep bottom rail option gives the authenticity of a timber box sash
- 128mm front to back dimension ensures the Vertical Slider is suitable for traditional timber box sash replacement
- Low line PCE glazing system
- Tilt 'inwards' facility allowing easy cleaning of the outside from the inside
- Large and small sash options provide equal sightlines
- Available with a Georgian bar option for enhanced look aesthetics.
- Available with a choice of cills
- Available in white and a range of coloured woodgrain foil finishes
- Manufactured to provide excellent weathering performance.





### Reinforcement:

Recycled composite material (RCM) thermal inserts, aluminium and steel reinforcements are used in accordance with the system supplier's recommendations.

### Glazing:

Double glazing to BS6262 can be supplied using 24mm insulating glass units depending on thermal and acoustic performance requirements.

### Hardware:

- Vertical Sliding windows can accommodate a variety of hardware including balances, pivot bars, tilt latches and locking mechanisms in a range of finishes.
- All hardware meets the requirements of BS7412.
- Windows fitted with high security hardware meet the requirements of PAS 24.

### Performance:

Thermal properties are enhanced through the use of 24mm glazing as standard.

Excellent weathering performance is increased with a pile seal detail on the sash edges and outer frame.

Air flow specification can be achieved through the use of trickle or glazed-in vents to suit particular applications as required.

Kitemarked to BS EN 12608 and PAS 24.



Test	Value
Air permeability	600Pa
Water tightness	300Pa
Wind Resistance	1600Pa



## Residential Doors

Residential doors are available in a variety of styles and sizes with a chamfered, ovolo or bevelled finish complementing the window systems.

The range includes inward and outward opening doors as well as the option of low PVC-U or aluminium threshold for wheel chair access in compliance with Building Regulation Approved Document M.

Composite, PVC-U smooth skin or feature infill panels can be supplied in white or woodgrain, with either standard or steel reinforced treated core. Welded or mechanically jointed midrails may be fitted if required. The option of curved or angled head and top rails, to suit design requirements is an additional feature.

### Profile

Acrylic modified high quality impact resistant white PVC-U extrusion, producing a rigid multi-chambered profile, conforming to the requirements of BS EN 12608, manufactured to BS EN ISO 9001.

### Reinforcement

A multi chamber profile allows for fully enclosed recycled composite material (RCM) thermal inserts, aluminium and/or steel reinforcements are used In accordance with the system supplier's recommendations.

### Performance

A minimum U-value of 1.8 W/(m<sup>2</sup>.K) can be achieved to meet current Building Regulations (1.6 W/(m<sup>2</sup>.K) for Scotland) Co-extruded bubble weather seals ensure the performance meets the requirements of BS 6375-1.







## Glazing

Double/Triple glazing to BS6262 can be supplied using 24mm-44mm insulating glass units depending on thermal and acoustic performance requirements. Glazing options include patterned glass; Georgian bars and leading, all internally glazed with post co-extruded beads.

## Hardware

Ironmongery is available in a variety of styles and finishes depending on the application such as lever/lever or lever/pad handles.

Butt hinges with security pin, or the option of fully adjustable flag hinges. Letter plates are fitted in midrails where required. Additional hardware, e.g. security devices, hold open arms etc., are offered as optional extras.

All hardware meets the requirements of BS 7412.

## Locking

The doors are fitted with secure multi-point hook bolt locks that have undergone type approval testing to PAS 24. In double doors the slave leaf can be secured by means of finger bolts or shoot bolts activated by lever handles to provide a locking frame for the master leaf.



Letter Plate



Lever/Lever Handle



Lockmaster Keep



Centre Hook  
Thrown



Yale Cylinder



Lockmaster Lock



2D Adj. Butt Hinge



S6520 Lockmaster Lock



Lockmaster  
Shootbolt



S6540 Packer





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## French Doors

Spectus French doors are a style alternative to Patio doors and a great way to fully open up a room and to let in air and natural light.

They are the perfect choice for the residential new build and refurbishment sectors, and can even add a bit of flare to an apartment block.

### Benefits:

- A choice of traditional and slimline bevelled frame or the sleek, contemporary and curved ovolo frame
- Double and triple glazing options providing thermal insulation
- PCE concealed gaskets provide a superior seal for improved weathering protection
- Choice of inward or outward opening doors
- Unlimited hardware choice and vast range of ancillary products
- A wide range of colour, and woodgrain finishes available
- Optional aluminium low threshold compliant with disability access (Document M).





## Doors with Side Screen

Spectus residential door and side screen units may be produced in a variety of styles with the Elite 70 frames.

Open-out or open-in windows can be incorporated into the screens. Units can be supplied in white or woodgrain with a range of panel options to available.

### Typical Style Options:

- Full length glass screens
- Single or double midrails
- Glass over glass
- Glass over infill panel
- Flag screens.
- Fanlights over etc.

### Extras

Letterplates may be incorporated in screen midrails, or infill panels.

### Glazing

Screens may be double or triple glazed to BS 6262, using annealed or safety glass depending upon application.

Glazing options include patterned glass, Georgian bars and leading, all internally glazed with co-extruded or standard bead.

### Sizes

The maximum size of one piece door/sidescreen units will depend on style and glass size limitations, (refer to BS 6262). In certain applications where the site requirements demand, or where additional structural stability is required, it is recommended that the units are coupled.

### Reinforcement

Specific members are reinforced with recycled composite material (RCM) thermal inserts, aluminium and/or steel to BS 7412 sealed within the profile central cavity.







## Emergency Exit Doors

Fire exit doors can be supplied fitted with panic bars for emergency situations.

Single doors use either multi-roller or head and threshold shootbolts. Double doors use shootbolt mechanisms. All doors are fitted with midrails and are bar operated.

Standard or low thresholds may be supplied. In addition to single or double doors, combination units are offered comprising single residential door for normal access, with single panic bar door adjacent for emergency.

All doors conform to our residential door specification. Additionally, panic bar mechanisms meet the requirements of BS EN 1125 as specified and approved by fire officers and local authorities.

Doors on escape routes leading towards a final exit should be quick and easy to open without the need for a key. This door requires a higher degree of security, while still being easy to open from inside. Generally panic bars are installed on exit doors, which are designed to be used by people not familiar with a building and in public buildings.

### Benefits:

- Standard or low threshold options
- Single doors with multi-roller or head and threshold shootbolts
- Double doors with shootbolt mechanism
- All doors fitted with midrails
- Combination units with residential door for normal access and single panic bar door for emergencies
- Conform to BS EN 1125.









# Bi-folding Doors

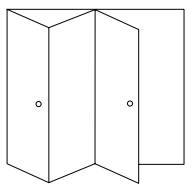
Bi-folding doors are an alternative to Sliding Patio and French Doors by maximising the opening space available.

They can be used in a variety of locations such as extensions, conservatories or as internal room dividers. Modern and stylish, bi-folding doors are an innovative way to enlarge the feel of any room and to connect the inside with the outside.

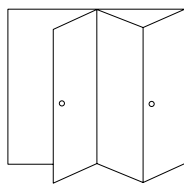


## ELITE 70

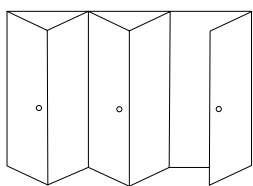
### Common Bi-folding door configurations



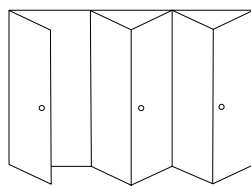
3 Folding Doors



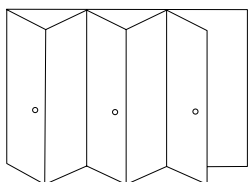
0 Main Opening Sash



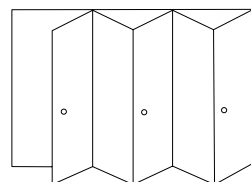
4 Folding Doors



1 Main Opening Sash



5 Folding Doors



0 Main Opening Sash

More configurations available, see pages 65 and 66 of the technical guide.

### Product features at a glance

- Compatible with other Spectus products
- Inward or outward opening options
- Two to seven panels available in different configurations
- Doors fold back against each other to maximise space
- The bottom track can also be concealed for reduced threshold height
- Optional aluminium low threshold
- A wide range of coloured woodgrain foil finishes available.





# Composite Doors

Composite doors are offered with 70mm depth outer frames.

Supplied as 44mm GRP, PVC-Polycarbonate or Steel Skinned Composite door leaves, they are available in a wide range of styles and finishes.

All are intergrally glazed; either open-in or open-out, with a dedicated low threshold system, which meets the requirements of regional Building Regulations.

The framing system is designed to accommodate single door sets, double door sets and either common mullion combined or coupled door sets. The glazing rebate accommodates unit thicknesses from 24mm up to 44mm, providing the facility for glass or like-panel inserts.

## Profile (outer frames/mullion/transoms)

Acrylic modified high quality impact resistant white PVC-U extrusion, producing a rigid multi-chamber.

Profile, conforming to the requirements of BS EN 12608, manufactured to BS EN ISO 9001.

## Reinforcement

Recycled composite material (RCM) thermal inserts, and/or steel or aluminium reinforcements are inserted within the centre of the main chamber of the profile.

### RCM Reinforcement Benefits:

- Doesn't rust or corrode
- Thermally efficient
- Excellent screw retention for hardware anchorage
- Easy to handle, easy to cut, easy to drill.











## Glazing

Door leafs are integrally glazed by internal cassette glazing, or alternatively, integral insertion of the glass units within the door leaf. Secure glazing - meeting the requirements of PAS 24 can be offered. Glass units to BS 6262 can be supplied. Glass can be offered in a wide range of styles, patterns and designs.

## Performance

Composite doors have been type approved tested to the exacting requirements of BS 8529 & PAS 24. Enhanced security performance requirements for door sets.

## Hardware

Composite door hardware is available ranging from lever door handles to spy holes and knockers.



## Handles

- Lever/Lever, Lever/Pad, Lever/Offset
- Spring cassette
- Range of colours.



## Door Knockers

- Aluminium door knockers with or without spy hole facility
- Range of colours.



## 12" Letterplates

- All metal
- Range of colours.





# Patio Door

Spectus sliding patio doors are a versatile option and ideal for both conservatories and porches.

Handle and locking system provides improved aesthetics and security through outward opposing hooks which prevent the leaf from being lifted from its frame. Post co-extruded sashes result in an easier, faster, cost efficient solution.

- Available in two, three or four pane options providing choice in the door style available
- Optional mechanical outer frame allows outer frame to be flat packed for easier transportation
- Dedicated frame coupler
- High security four hook locking mechanism
- Purpose designed midrail provides the ability to incorporate a standard letter box
- Smooth sliding action, the doors can be fitted to the internal or external track
- A wide range of colour and woodgrain foil finishes available
- Compatibility across all Spectus product range, ensures consistency in design, installation and finish.



## Hardware

A complete hardware range specially designed for patio doors.



Patio hardware



Handle range



Locking Spindle



Door roller



One piece keep









# Curtain Walling

The Spectus curtain walling system is a thermally broken aluminium system incorporating 70mm frame depth windows and doors.

Specifiers can choose from direct glaze insulation or spandrel panels, if in the unlikely event a glazed unit does need to be replaced, the system accepts individual glazed frames. The bead is simply removed and the new glass unit slotted in from the inside, for a simple and quick replacement.

The curtain wall system is PVC-U clad; both internally and externally, ensuring colour and material matches for an attractive end result. Window frames, cover caps and cladding panels are fitted post installation minimizing site damage.

## Suitable applications:

- Education
- Offices
- Hospitals
- Industrial
- Retail
- Large stairwell screens
- Other commercial developments

## Product features at a glance

- High performance
- PVC-U clad, thermally broken aluminium system
- Fully compatible with Elite 70
- Improved building aesthetics
- Accredited system - BSI tested
- Popular choice amongst specifiers
- Glazing options
- Tried and tested solution
- Diverse colour range
- Uniformity of product texture





## System performance

Test	Value
Air permeability	600Pa
Weather tightness	300Pa
Wind Resistance	3000Pa

## Material

Aluminium to BS EN 573, BS EN 755 and BS EN 12020. Specification for wrought aluminium and alloys.

Transom brackets - Stainless Steel.

Mullion fixing bolts, clamp plate and transom bracket fixing screws.

Full range of head, cill and intermediate fixing brackets.



## Window and door specifications

BS EN 12608 Specification for white PVC-U extruded hollow profiles, manufactured in accordance with BS EN ISO 9001 and BS EN ISO 14001 and BES 6001 Responsible Sourcing.

BS 7412 Specification for windows and doorsets made from PVC-U extruded hollow profiles.

BS 6375-1 Classification for weather tightness and guidance on selection and specification.

PAS 24 Specification for enhanced security performance for windows and doorsets.







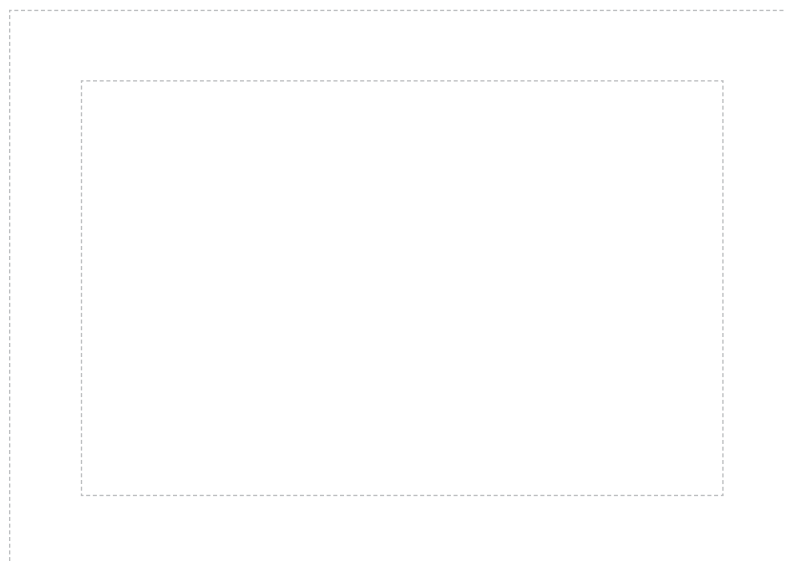


## Specification & Technical Guide USB card

A USB card is provided below which contains this document and also the Technical Guide on PDF. If this is missing the files are available to download from our website [spectus.co.uk/commercial](http://spectus.co.uk/commercial).

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BS EN 12608  
KM 12874  
PROFILE



BS EN 12608/PAS 24  
KM 33510  
ENHANCED SECURITY  
WINDOW SYSTEMS  
SUPPLIER



BS EN 12608/PAS 24  
KM 77061  
ENHANCED SECURITY  
DOOR SYSTEMS  
SUPPLIER



# Spectus<sup>®</sup>

WINDOW SYSTEMS

## Spectus Window Systems

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